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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/770,358	01/25/2001	Ashish Thusoo	256/295	7894

23639 7590 04/21/2005  
BINGHAM, MCCUTCHEN LLP  
THREE EMBARCADERO CENTER  
18 FLOOR  
SAN FRANCISCO, CA 94111-4067

EXAMINER

TO, BAOQUOC N

ART UNIT PAPER NUMBER

2162

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/770,358

Applicant(s)

THUSOO ET AL.

Examiner

Baoquoc N To

Art Unit

2162

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 January 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                         |                                                                             |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                                |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____                                                             | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Request For Continued Examination***

1. The request filed on 01/21/2005 for a Request For Continued Examination (RCE) under 37 CFR 1.53(d) based on parent Application No. 09/770358 is acceptable and a RCE has been established. An action on the RCE follows.
2. Claims 1, 5 and 8 are amended and claims 33-36 are newly added. Claims 1-33 are pending in this application.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recited claims 1 “the method performing no more than one scan per table” can not be done in this invention. The reason for the rejection is that the destination table requires at least two scans in order to produce the join result and using the join result to update and/or insert the destination table.

Claim 17 recited similar limitation; therefore, it is rejected under the same reason.

***Response to Arguments***

4. Applicant's arguments filed 01/21/05 have been fully considered but they are not persuasive.

The applicant argues "the claim includes a source table not a specification query, and an outer join not a join. The passage further discloses that separate UPDATE, DELETE, and INSERT operations are used which require additional scans of the tables."

The examiner respectfully disagrees with the above argument. First, the source table is not defined; in equivalency the results of a specification query 402 is the source table. An outer-join is not a join, however outer-join is not defined therefore, outer-join is a join. The results of the specification query 402 are joined 406 to the summary table 400 to determine whether an UPDATE 408, DELETE 410, or INSERT 412 operation is required to maintain the summary table 400" is required to scan more than one time. The results of the specification or delta table is the joined result which is used to update or insert to the target database table. Colby also discloses the same concept in addition, Colby discloses the use of the delta file is which is the same results of the specification query. Since both of Cochrane and Colby are in the same field of the endeavor, therefore, the motivation for combining is to update and insert row of the tables.

Claims 5 and 21 are the same concept of claim 1, in addition the "the statement comprising a single query language statement" (col. 6, lines 9-53).

Claims 9, 25 and 33 are the same concept of claim 1, therefore the "the method using a single query language statement" (col. 6, lines 9-53).

Claims 13 and 29 are shared the same main concept of claim 1, parsing the command line is done prior to the step of executing and comparison step. Therefore, they are rejected under the same reason as claim 1.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cochrane et al. (US. Patent No. 6,581,205) in view of Colby et al. (US. Patent No. 6,735,587).

Regarding on claims 1 and 17, Cochrane teaches a method for applying a row from a source table to a destination table, the method comprising

Selecting first column from a source table (column A) (col. 6, lines 65-67);

Selecting a second column from a destination table (MV) (col. 6, lines 65-67);

Performing an outer join (outer join) operation on the source table and the destination table using the first and second columns (col. 7, lines 1-6);

Cochrane does not explicitly teach updating each row in the destination table with a row from the result of the outer join operation containing a matching element in the first and second columns; and inserting into the destination table each row from the

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result set of the outer join operation with a non-matching element in the first and second columns, the method performing no more than one scan per table. However, Colby teaches updating each row in the destination table with a row from the result of the outer join operation containing a matching element in the first and second columns; and inserting into the destination table each row from the result set of the outer join operation with a non-matching element in the first and second columns, the method performing no more than one scan per table (col. 7, lines 62-67 to col. 8, lines 1-30). This suggests the usage of the delta table to compare in order to insert or delete rows with at one scan per table. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify Cochrane's system to include a usage of the delta table to update or insert rows in the table as taught by Colby as an evidence of Colby's reference to reduce query execution time.

Regarding on claims 2 and 18, Cochrane teaches the combining the rows in the source table that the first column has unique element in each row (col. 5, lines 50-67).

Regarding on claims 3 and 19, Cochrane teaches the combining step further comprises:

Sorting the rows in the source table based on the element in the first column (col. 5, lines 55-67; and

Creating a groups of rows, wherein each row in the group of rows contains a matching element in the first column (col. 5, lines 55-67);

Combining the group of rows into a single row (col. 5, lines 55-67).

Regarding on claims 4 and 20, Cochrane teaches the outer join operation uses an equal comparison operator for a comparison statement (col. 5, lines 55-67).

Regarding on claims 5 and 21, Cochrane teaches a statement to insert a new row or update an existing row in database table, the statement implementing a process comprising the steps of:

Selecting from a source table a first column comprising a plurality of elements (column A) (col. 6, lines 65-67);

Selecting from a destination table a second column comprising a plurality of elements (MV) (col. 6, lines 65-67);

Determining a set of matching rows based upon the success of a comparison operation on an element in the first column and an element in the second column (to determine whether an insert or update is required, a DELTA-T table may be created containing two row: one to delete group A=2 and the other to insert/update A=3) (this suggests the comparison process in order to insert or delete) col. 5, lines 64-67 to col. 6, lines 1-8);

Determining a set of non-matching rows based upon the failure of a comparison operation on the first column element and the second column element (DELTA -T may then be outer join with MV, with MA as the null producing side of the outerjoin. If a now does not join with MV, then the group with A=3 does not already exist) (this suggests for row not matching because row does not exist after the comparison process) (col. 5, lines 64-67 to col. 6, lines 1-8);

Cochrane does not explicitly teach updating the destination table with the set of matching rows; and inserting into the destination table the set of non-matching rows, the statement comprising a single query language statement. However, Colby teaches updating the destination table with the set of matching rows; and inserting into the destination table the set of non-matching rows, the statement comprising a single query language statement (col. 7, lines 62-67 to col. 8, lines 1-30). This teaches the comparison of the delta table to insert and delete rows in the table with in a single query statement. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify Cochrane's system to include the join process including inserting and deleting within on single query statement as an evidence of Colby's reference in order to reduce query execution time.

Regarding on claims 6 and 22, Cochrane teaches combining the rows in the source table, wherein the resulting source table has a unique element in each row of the first column (col. 5, lines 50-67).

Regarding on claims 7 and 23, Cochrane teaches the combining step further comprises:

Sorting the rows in the source table based on the element in the first column (col. 5, lines 50-67); and

Creating a group of rows, wherein each row in the group of rows contains a matching element in the first column (col. 5, lines 50-67);

Combining the group of rows into a single row (col. 5, lines 50-67).



Regarding on claims 8 and 24, Cochrane teaches the comparison operation uses an equal comparison operator (col. 5, lines 50-67).

Regarding on claims 9, 25 and 35, Cochrane teaches a method for upserting a source table with a destination table, the method comprising:

Selecting from a source table a first column comprising a plurality of elements (column A) (col. 6, lines 65-67);

Selecting from a destination table a second column comprising a plurality of elements (MV) (col. 6, lines 65-67);

Cochrane does not explicitly teach updating a row in the destination table with a row from the source table upon the success of a comparison operation on an element in the first column of the row from the source table and an element in the second column of the row from the destination table; and inserting a row from the source table into the destination table upon the failure of a comparison operation on an element in the first column of the row from the source table and an element in the second column of the row from the destination table. However, Colby teaches updating a row in the destination table with a row from the source table upon the success of a comparison operation on an element in the first column of the row from the source table and an element in the second column of the row from the destination table; and inserting a row from the source table into the destination table upon the failure of a comparison operation on an element in the first column of the row from the source table and an element in the second column of the row from the destination (col. 7, lines 62-67 to col. 8, lines 1-30). This teaches the comparison process between the created delta table to

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insert and delete rows in the table within a single query statement. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify Cochrane's system to include the comparison process between the created delta table to insert and delete rows in the table within on single query statement as the evidence of the Colby' reference in order to reduce query execution time.

Regarding on claims 10, 26 and 34, Cochrane teaches combining the rows in the source table, wherein the resulting source table has a unique element in each row of the first column (col. 5, lines 55-67).

Regarding on claims 11, 27 and 35, Cochrane teaches the combining the step further comprises:

Sorting the rows in the source table based on the element in the first column (col. 5, lines 55-67); and

Creating a group of rows, wherein each row in the group of rows contains a matching element in the first column (col. 5, lines 55-67);

Combining the group of rows into a single row (col. 5, lines 55-67).

Regarding on claims 12, 28 and 36, Cochrane teaches the comparison operation uses an equal comparison operator (col. 5, lines 55-67).

Regarding on claims 13 and 29, Cochrane teaches a computer implemented method for aggregating data in a database, comprising:

Parsing from a single command line, a command, a source table (column A), a destination table (MV), a source key, and a destination key (col. 6, lines 65-67);

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Comparing the source key in each row of the source table with the destination key in each row of the destination table (col. 5, lines 64-67 to col. 6, lines 1-8);

Determining a set of update rows based upon the success of a comparison operation performed on the source key and the destination key (col. 5, lines 64-67 to col. 6, lines 1-8);

Determining a set of insert rows based upon the failure of a comparison operation performed on the source key and the destination key (record of rows) col. 5, lines 64-67 to col. 6, lines 1-8);

Cochrane does not explicitly teach updating the destination table with the set of update row; inserting into the destination table with the set of insert rows and all in one single command line. However, Colby teaches updating the destination table with the set of update row; inserting into the destination table with the set of insert rows and all in one single command line (col. 7, lines 62-67 to col. 8, lines 1-30). This teaches the comparison process between the created delta table to insert and delete rows in the table within a single query statement. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify Cochrane's system to include the comparison process between the created delta table to insert and delete rows in the table all in one single command line as an evidence to reduce query execution time.

Regarding on claims 14 and 30, Cochrane teaches combining the rows in the source table, wherein the resulting source table has a unique source key in each row of the source table (col. 5, lines 55-67).

Regarding on claims 15 and 31, Cochrane teaches sorting the rows in the source table based on the source key (col. 5, lines 55-67); and

Creating a group of rows, wherein each row in the group of rows contain a matching element in the source key (col. 5, lines 55-67);

Combining the group of rows into a single row (col. 5, lines 55-67).

Regarding on claims 16 and 32, Cochrane teaches the comparison operation uses an equal comparison operator (col. 5, lines 55-67).

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baoquoc N. To whose telephone number is at 571-272-4041 or via e-mail BaoquocN.To@uspto.gov. The examiner can normally be reached on Monday-Friday: 8:00 AM – 4:30 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached at 571-272-4107.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231.

The fax numbers for the organization where this application or proceeding is assigned are as follow:

(703) 872-9306 [Official Communication]

Baoquoc N. To  
April 7, 2005

  
JEAN M. CORRIELUS  
PRIMARY EXAMINER